

NODE=M151

$B_J^*(5732)$
or B^{**}

$I(J^P) = ?(??)$
 I, J, P need confirmation.

OMITTED FROM SUMMARY TABLE

Signal can be interpreted as stemming from several narrow and broad resonances. Needs confirmation.

NODE=M151

 $B_J^*(5732)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
5698± 8 OUR AVERAGE				Error includes scale factor of 1.2.
5710±20		1 AFFOLDER	01F CDF	$p\bar{p}$ at 1.8 TeV
5695 ⁺¹⁷ ₋₁₉		2 BARATE	98L ALEP	$e^+ e^- \rightarrow Z$
5704± 4±10	1944	3 BUSKULIC	96D ALEP	$E_{cm}^{ee} = 88-94$ GeV
5732± 5±20	2157	ABREU	95B DLPH	$E_{cm}^{ee} = 88-94$ GeV
5681±11	1738	AKERS	95E OPAL	$E_{cm}^{ee} = 88-94$ GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5713± 2		4 ACCIARRI	99N L3	$e^+ e^- \rightarrow Z$

¹AFFOLDER 01F uses the reconstructed B meson through semileptonic decay channels. The fraction of light B mesons that are produced at $L=1$ B^{**} states is measured to be $0.28 \pm 0.06 \pm 0.03$.

²BARATE 98L uses fully reconstructed B mesons to search for B^{**} production in the $B\pi^\pm$ system. In the framework of heavy quark symmetry (HQS), they also measured the mass of B_2^* to be 5739^{+8+6}_{-11-4} MeV/ c^2 and the relative production rate of $B(b \rightarrow B_2^* \rightarrow B^{(*)}\pi)/B(b \rightarrow B_{u,d}) = (31 \pm 9^{+6}_{-5})\%$.

³Using $m_{B\pi} - m_B = 424 \pm 4 \pm 10$ MeV.

⁴ACCIARRI 99N uses inclusive reconstructed B mesons to search for B^{**} production in the $B^{(*)}\pi^\pm$ system. In the framework of HQET, they measured the mass of B_1^* and B_2^* to be $5670 \pm 10 \pm 13$ MeV and $5768 \pm 5 \pm 6$ with the $B(b \rightarrow B^{**}) = (32 \pm 3 \pm 6) \times 10^{-2}$. They also reported the evidence for the existence of an excited B -meson state or mixture of states in the region 5.9–6.0 GeV.

NODE=M151M

NODE=M151M

NODE=M151M;LINKAGE=MF

NODE=M151M;LINKAGE=B

NODE=M151M;LINKAGE=A

NODE=M151M;LINKAGE=N

 $B_J^*(5732)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
128±18 OUR AVERAGE				
145±28	2157	ABREU	95B DLPH	$E_{cm}^{ee} = 88-94$ GeV
116±24	1738	AKERS	95E OPAL	$E_{cm}^{ee} = 88-94$ GeV

NODE=M151W

NODE=M151W

NODE=M151215;NODE=M151

 $B_J^*(5732)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad B^*\pi + B\pi$	dominant
$\Gamma_2 \quad B^*\pi(X)$	[a] (85±29) %

[a] X refers to decay modes with or without additional accompanying decay particles.

DESIG=1;OUR EST;→ UNCHECKED ← DESIG=2

LINKAGE=151

NODE=M151220

NODE=M151220

NODE=M151R1
NODE=M151R1 **$B_J^*(5732)$ BRANCHING RATIOS**

X refers to decay modes with or without additional accompanying decay particles.

$\Gamma(B^*\pi(X))/\Gamma_{total}$	DOCUMENT ID	TECN	COMMENT	Γ_2/Γ
0.85^{+0.26}_{-0.27}±0.12	ABBIENDI	02E OPAL	$e^+ e^- \rightarrow Z$	

***B_J*(5732)* REFERENCES**

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ABBIENDI	02E	EPJ C23 437	G. Abbiendi <i>et al.</i>	(OPAL Collab.)	REFID=48742
AFFOLDER	01F	PR D64 072002	T. Affolder <i>et al.</i>	(CDF Collab.)	REFID=48369
ACCIARRI	99N	PL B465 323	M. Acciarri <i>et al.</i>	(L3 Collab.)	REFID=47247
BARATE	98L	PL B425 215	R. Barate <i>et al.</i>	(ALEPH Collab.)	REFID=46082
BUSKULIC	96D	ZPHY C69 393	D. Buskulic <i>et al.</i>	(ALEPH Collab.)	REFID=44677
ABREU	95B	PL B345 598	P. Abreu <i>et al.</i>	(DELPHI Collab.)	REFID=44131
AKERS	95E	ZPHY C66 19	R. Akers <i>et al.</i>	(OPAL Collab.)	REFID=44182
